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Volume 2 Number 7 October 1970



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Vol. 2

No. 7

G2



AFV-G2

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Our Cover

A Sherman Firefly of the 1st Polish Armoured Division emerges from cover to engage a German Panther, in the Bocage country of Normandy, France in 1944. This month's cover is a pen-and-ink sketch by Bruce Weigle, one of our staff artists. See Page 6 for more information on Polish armor.

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The AFV-G2 is a magazine, published monthly, for Armor Enthusiasts, with the purpose of gathering and disseminating information about Armored Fighting Vehicles and their employment; to provide an opportunity for persons seriously interested in the History of Armored Fighting Vehicles, in the modeling of these AFV's and associated equipment, and in the playing of military Wargames utilizing miniature AFV's, to share ideas and items of mutual interest, and to promote an interest and awareness in the subject of AFV's.

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The **HANOMAG** Armored Halftracks

Part II.

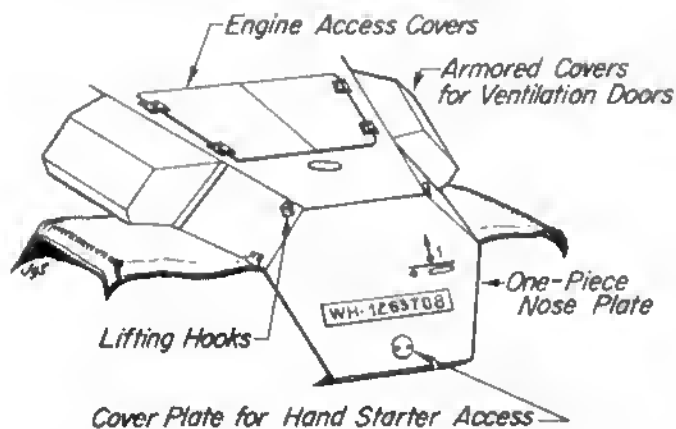
by Norb Meyer



The lessons learned by the German ordnance in the first year of war against the Russians led to many modifications in the German war machines. Some of these changes were slow in coming because of the intricate technology involved. Others became apparent through factory modifications and field changes pressed upon the Wehrmacht by immediate need. The Ausführung C of the Hanomag Sd. Kfz. 251 armored halftrack was one of the immediate modifications, and is the subject for this month's article.

There were several distinguishing changes made on the Sd. Kfz. 251, Ausführung C. The most readily apparent change was the addition of armored covers over the cooling doors on the forward nose sides. The engine of the '251' had a nasty habit of overheating in the dust and summer of Russia; this necessitated the opening of the hinging doors on both sides of the engine compartment. The more than occasional bullet that found its way into many engines resulted in a disabled vehicle and an expensive engine change in the shops. By adding the armored shield-like covers, the cooling vents could be left open without fear of Russian bullets. This same reason led to the addition of a straight one-piece nose plate, which left room on the underside of the nose plate for the front cooling door to be left open. A hole was cut in the lower part of this straight nose plate for the use of the hand starter crank, if required. This hole, when not in use, was covered by a round plate which was fastened by two bolts. The front tubular bumper was removed altogether due to lack of space.

Hull Front, Sd. Kfz. 251, Ausführung C



Further modifications included the removal of the turn signals from the position just in front of the side vision ports to a position just above the fenders over the front drive sprocket. This seems to have been a result of unsympathetic tree branches and other obstructions. There was also a slight modification to the rear fender, the rear portion of which was "beefed-up" on the outboard sides. The earlier fenders were a bit too fragile; a point to note here is that there seems to be an inherent weakness in the fenders of the '251', as most photos of battle worn vehicles show a 'kink' just over the first inner road wheel, where heavy loads have caused the fenders to bend. A final apparent modification of the '251' appears in the relocation of the headlights; they were lowered

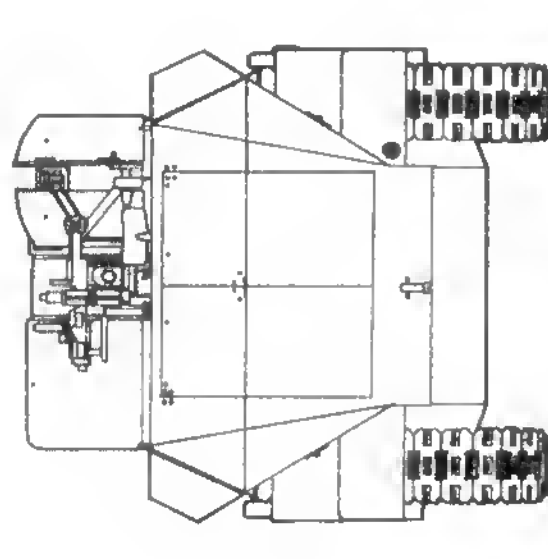
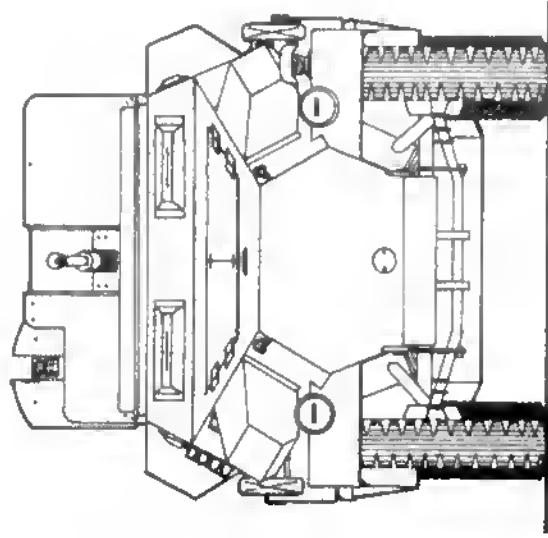
and are somewhat smaller than the ones on the Ausführung A and B.

The Sd. Kfz. 251, Ausführung C, came in several new variants, but there were several previous variants mentioned in Part I, of this article (Volume 2, No. 5) that the Model "C" did not continue. Photographic evidence indicates that the Ausführung C was produced in the following versions:

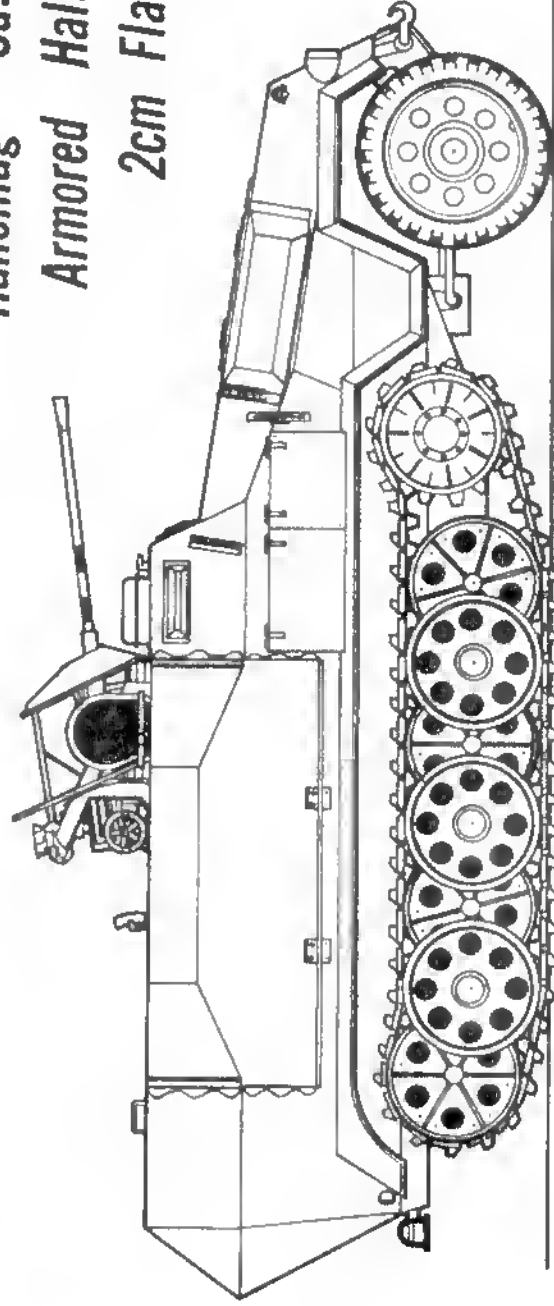
Sd. Kfz. 251/1
Sd. Kfz. 251/2
Sd. Kfz. 251/6

Standard Infantry and Personnel Version
8cm Mortar Carrier Version
Command Version with Map Table

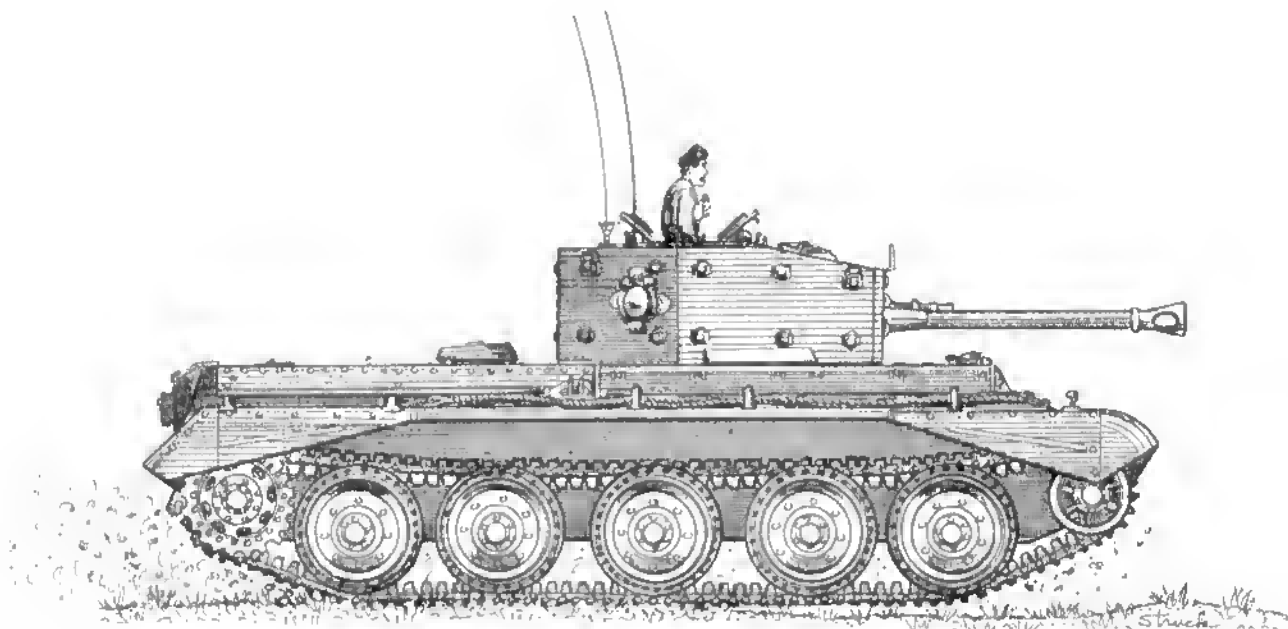
- Continued on Page 28 -



Hanomag Sd.Kfz. 251/17
Armored Halftrack with
2cm Flak 38



drawn by:
J. Steuard
scale: 1/32



"Maczuga"

1st POLISH ARMoured DIVISION IN THE FALAISE FIGHTING PART I

by Joe Struck

On August 5, 1944, General Montgomery visited the newly arrived 1st Polish Armoured Division. Monty spoke to Major General Maczek, the division commander, and the other senior officers who listened agog to their great leader. "Gentlemen, from today, your division is incorporated with the II. Canadian Corps, which will have the honor of taking Falaise."

The Polish division was formed in 1942 and organized like other British armoured divisions. 10th Polish Armoured Brigade's three tank battalions were the 1st and 2nd Polish Armoured Regiments and the 24th Polish Armoured Lancers, each with 49 Shermans and Fireflies, 11 Stuarts and 4 Crusader AA Mark II. tanks. The Brigade also had a motor (infantry) battalion, the 10th Polish Dragoons. The division's reconnaissance unit, the 10th Pulk Strzelcow Konnych (Mounted Rifles Regiment) had 61 Cromwell Mark IV.'s, 11 Stuarts and 4 Crusader AA tanks. The 3rd Polish Infantry Brigade consisted of the 1st Polish Highlanders and the 8th and 9th Polish Infantry Battalions.

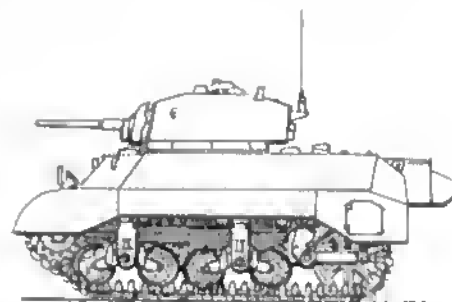
Operation "Totalize", the Canadian attack down the Caen to Falaise Road, began with a night bombing by over a thousand British heavy bombers; by dawn on August 8th, Canadian and Highlander infantry had advanced 3 miles into the German lines. As part of Phase II, the 1st Polish Armoured Division started its attack down the Crammesnil Road to Robertesnil. When the Poles emerged from the woods, they were engaged by 20 Tigers of the 12. SS-Panzer-Division hidden near Saint-Sylvain. The inexperienced Poles attacked with courage rather than skill, losing 26 of their 36 tanks. Six of the heavy Tigers were knocked out by the outclassed Shermans. When Major Stefanowicz's 1st Polish Armoured Regiment captured Crammesnil Hill, nine M4's were destroyed by a single 88--the closest within 70 yards of the wrecked gun.

The division resumed its attack the next day, taking Saint-Sylvain and the hills a mile southeast of the town, where the Germans had a strong anti-tank screen. At nightfall, the 2nd Squadron of the 1st Armoured Regiment attacked "flat out" in the traditional Polish cavalry charge, passing burned-out Canadian tanks. When they reached the top of Hill 111, they trapped the German infantry in front of the Liason River and forced them to surrender.

The Poles hastily erected a "cage" and then carefully screened the scared German prisoners for fellow countrymen. Having no additional Poles in England, replacements were always a major problem. The Polish division kept a truck-full of new clothing with their forward units, so that Polish prisoners could join their Allied comrades. German prisoners feared instant death and often tried to bluff their Polish captors, claiming, "I am a Pole; my mother was born in Poznan." The interrogator would reply, "It is a very hot day today, isn't it?" The prisoner would reply, "I am a

Pole." Obviously,.....

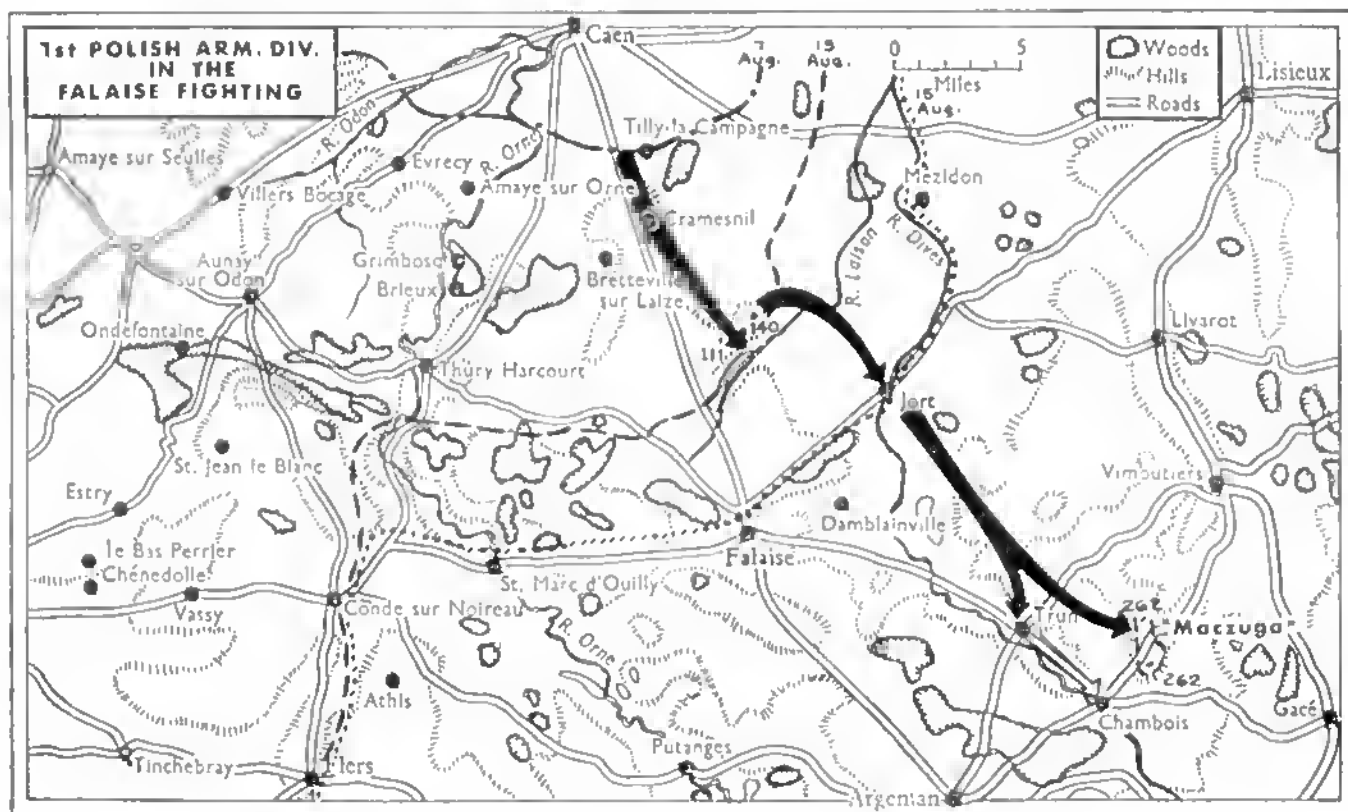
The division was relieved by the 51st Highland Division for Operation "Tractable", and it was assigned to force a bridgehead across the River Dives and capture Trun and Chambois "at all costs and as quickly as possible". On August 15th, Polish Soldier's Day, the whole division advanced towards the Dives. The 10th Pulk Strzelcow Konnych, led by Major Maciejowski, reconnoitered for a crossing. Lt. Polozynski and his troop of Cromwells were greeted by mortar fire as they neared the river. The bridge at Jort was damaged and the nearby ford was mined. When he attempted to cross at another unmined, but marshy spot, his Cromwell was bogged down. The enemy opened fire from the opposite bank. Luckily, another tank emerged from the bushes, passed over its towing cable, and pulled Polozynski and his tank out of danger. Sergeant Laskowski found an undefended ford, and Polozynski's troop crossed the Dives, followed by the rest of the 1st Squadron. Meanwhile, the 3rd Squadron, with Major Zgorzelski's 10th Polish Dragoons fought from house to house in Jort for possession of the bridge, losing one Cromwell to an enemy 75mm anti-tank gun.

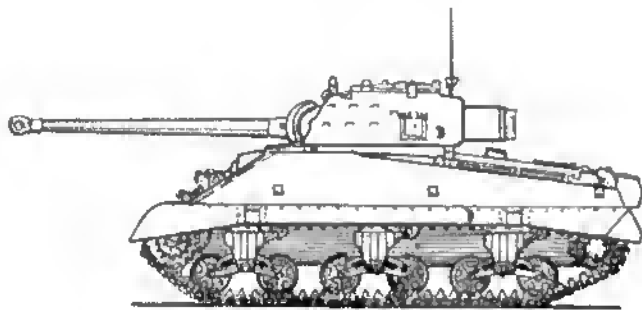


STUART Mk.V

The 1st Polish Armoured Regiment crossed the Dives River further north, when its Sherman tank-dozer was able to scoop out a diversionary channel that lowered the water level. The Germans holding Jort hastily withdrew from the town to avoid being trapped by the outflanking Poles. The 1st Polish Armoured Division was the first large formation of the Canadian army to cross the Dives River. This move took the Germans by surprise, since they had concentrated their main forces at Falaise. On August 16th, General Maczek ordered the 3rd Polish Infantry Brigade to deal with the Germans in the nearby Courey Forest, while the 10th Polish Armoured Brigade and the 10th Pulk Strzelcow Konnych were sent on to capture Trun and Chambois, pushing the attack against the enemy.

Supplies were due to arrive for the 2nd Polish Armoured Regiment before midnight, but most of these were destroyed by Allied air attacks. The 2nd Regiment's Shermans set out with only half of the necessary fuel and ammunition, advancing deep into enemy held territory, over difficult terrain. When the tanks reached a road, a German truck convoy stopped to make way for the tanks,



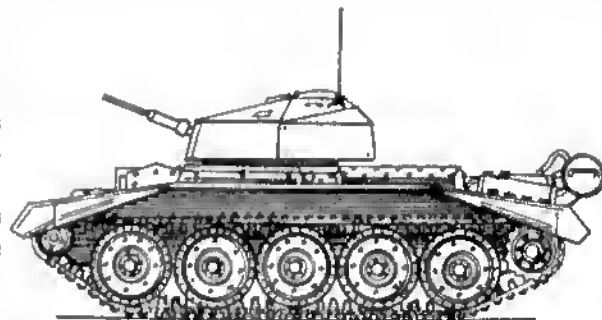


SHERMAN Mk.VC "FIREFLY"

attacked in Normandy. It was often quipped that when German aircraft came over, the Allies ducked; when British aircraft came over, the Germans ducked; but when American aircraft came over, everybody had to duck. In truth, the British were not much better; during the 3 days of the Polish advance, the 2nd Tactical Air Command shot up half of the Polish fuel and supplies and 72 Poles were killed, with another 191 being wounded.

The 10th Pulk Strzelcow Konnych occupied the hills overlooking Trun, and the entire Falaise battle. On the right, the 24th Polish Armoured Lancers destroyed 4 Panthers in the dense hedgerows, which limited visibility and firing to less than 100 yards. The Polish infantry, joined by the Canadians, occupied the abandoned town of Trun. Leaving it to the Canadians, the 10th Polish Dragoons pressed on towards Chambois, while the 1st Polish Armoured Regiment fought its way to Hill 262.

General Maczek had told Colonel Czarnecki on the previous evening, "On the map, Point 262 looks like a bone, or rather a "maczuga" (the Polish word for a bludgeon). Montgomery has ordered us to take the Small Cross (Maczek's name for the Chambois road junction), but that is not enough. Whoever holds Maczuga also holds Small Cross and the valley (the Falaise pocket)." The hill called "Maczuga", also known as the Courdehard Heights, dominated the German escape route to the River Seine and beyond. It was here that the Polish Armoured Division was to gain a fierce reputation for bravery and courage.



CRUSADER AA Mk.II

PRODUCT REVIEW:

Nitto Kübelwagen in 1:25 Scale

William Rupprecht

Although many armored vehicles of the Wehrmacht can be called the workhorses of the German Army, the soft-skinned Volkswagen was possibly the backbone of the motorized machine. The little "Kübelwagen" or "bucket-car" went wherever its armored contemporaries ventured.

The Japanese companies of Sankyo, Nitto, and Tamiya have witnessed the demand for the "bucket-car" in scale form. Although Sankyo is now listed as bankrupt (the Kübelwagen was in 1:35) and Tamiya has not released their "Kübel", Nitto has presented armor enthusiasts with a 1:25 scale soft-skinned VW. Assembly is quite easy; all parts fitting quite well, with little or no filing. Nitto has once again included the imaginative frontal-steering mechanism that they pioneered on the Hano-mag Sd. Kfz. 251 replica. The overall proportion is quite good, and the characteristic raised edges (of the stampings) on the sides are excellent, being sharply pressed.

One major drawback of the kit, the interior, is quite noticeable. The depth of the inside is completely diminished because of the battery box for the Mabuchi motor (once again the Japanese have distorted a good model with gimmicks), which fills the "Kübelwagen's" interior. However, the seats, brake pedal, steering wheel and dashboard are present.

The finished product, topped off by a properly weathered off-white canopy, looks impressive. Even though the details on the decal sheet are poor, the road (or license) numbers (SS) can be salvaged. The model can be built into a very authentic replica, with some effort..... Long live the Volkswagen!

An Experience with S-Mines
by C. Jones

Although, in World War II., the sight of a mass formation of heavy or light armoured vehicles proceeding towards the entrenched infantryman proved to be rather unnerving, to say the least, one should not underestimate the havoc caused among those same poor bloody infantry by anti-personnel mines and booby traps so generously set and scattered by the German engineers.

Their knack in finding the most unobvious places to lay, for instance, an "S-Mine", seemed more like the work of the devil, than human.

Who would expect those green and pleasant French or Italian fields, or perhaps the sun-drenched vineyard, to contain the most vicious "viper" one could ever encounter. Or a cool and shady copse becoming an instrument of death because of a man's wrong footstep.

I feel that I can write with some experience upon the disastrous effect of the "S" Mine, having seen the destruction of many of my men and officers through this hidden foe. "Green" troops are naturally hit the hardest by anti-personnel mines, due to their inexperience in warfare, however, even many matured fighting men often had a total disregard of the danger of the "S" mine fields, until they have seen the slaughter or mutilation caused by the mine itself.

I can clearly remember one warm sunny day during the early months of the occupation of Italy. My regiment (originally 40mm Light Anti-aircraft) had been in the theater of war perhaps a total of two years, originally in North Africa, and now in Italy, when we were ordered to take up a position on the river Arno (as infantry).

The area was quiet as we ambled along through the woods that bordered the river, and my thoughts were far away from war and destruction. As we came closer to the river, and presumably within sight of the enemy snipers, the Major leading the patrol decided to detour further into the wood, for the sake of safety and speed.

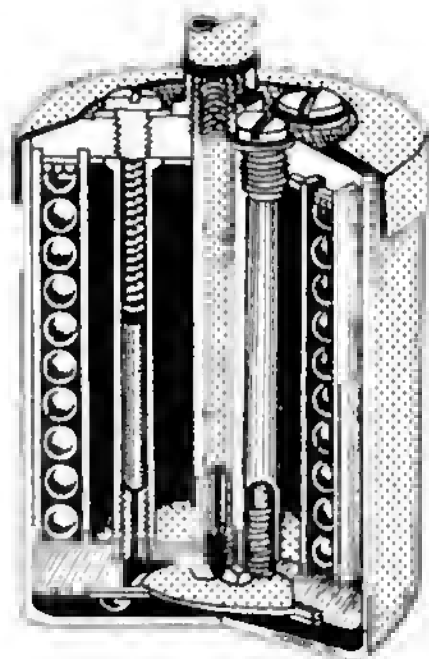
As he made his way over the "leafy carpet" of the wood, I noticed a thin wire stretched between many of the trees, and I immediately advised him of the fact that the wire might indicate the presence of mines. I also suggested that the "road" would be safer, provided we advanced with caution. My advice was ridiculed, and I was told to follow with my section, without argument. However, I remained unconvinced of the lack of danger, and "allowed" another section of men to precede mine.

Suddenly and without warning, the Major stepped upon the deadly three prongs of a "S" mine, and within a fraction of a second after its explosion, he and four men were lying dead with their bodies ripped apart by scrapnel. Five or six men were still in the mine field at this time, unhurt, but of course unnerved, when one decided to make a quick exit from the danger area. Unfortunately, he too trod upon another set of the three prongs, with the result that he and three more men suffered a bloody death.

In addition to these poor unfortunates who died without warning, five or six other men were severely injured. We were never informed whether they lived or died!

Perhaps the Germans had placed those mines long before our arrival, but they were not wasted! Prior to its detonation, the S-Mine was an innocent-looking metal cannister containing hundreds of steel balls, which compared with modern weapons of destruction, seems rather puny indeed. But, somewhat like the arrow fired by an expert bowman in earlier wars, it can carry out its work of death, very thoroughly. . . .!

Editors Note: Mr. Jones was a Sergeant in the 39th Light Anti-Aircraft Regiment, Royal Artillery, British Army, which was attached to the U. S. IV. Corps in North Africa and Italy. His article was prepared after his reading Carl Dembrowski's article on German Land Mines (in Vol. 2, No. 5).



S-MINE 35

Color 'n Camouflage

by Norb Meyer & Jim Steuard

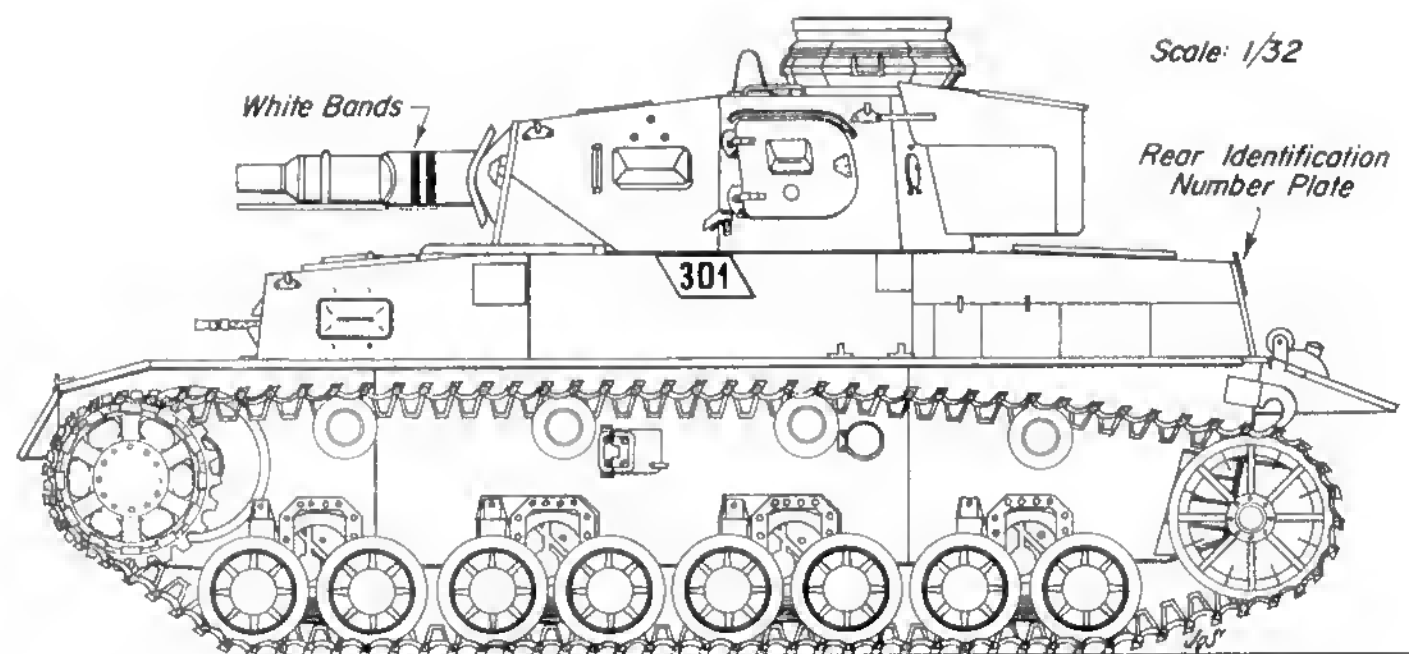
The German Panzerkampfwagen IV, in France, 1940

When the German Blitzkrieg rolled across the Belgian border in May 1940 at the start of the French Campaign, all of the Panzer-Divisionen were in the forefront of the advance. With the exception of training vehicles, almost every armored vehicle in the Wehrmacht was poised to start the advance to the west. Our subject for this month's article is a Panzer IV, of the 4. Panzer-Division- one of the ten such divisions that fought in this rapid-pace campaign.

At the start of the campaign in May, the 4. Panzer-Division was assigned to the XVI. Armee-Korps (Mot.), commanded by General der Infanterie Hoepner, a component part of the 6. Armee, which was poised on the Belgian border. This corps included the 3. Panzer-Division and the 29. Infanterie-Division (mot.), in addition to our division. The overall command of the armored troops on this northern sector was General der Kavalerie von Kleist, commanding Panzer-Gruppe Kleist.

Our particular Panzerkampfwagen IV, appears to be an Ausführung C or early D; and it is a company commander's tank from the 3. Kompanie (of the 1. Abteilung) of either Panzer-Regiment 35, or 36. The photograph shows the tank and crew at rest, with the commander's tank parked under several trees at road side, evidently refueling. Two crew members are standing on the rear decking pouring fuel from "jerry cans" into the fuel tank; and the commander is standing in his hatch, evidently on "radio watch", with his earphones perched on top of his hat. Another company tank, a Panzer II, is viewed sitting on the opposite side of the road, with its crew performing the necessary maintenance. Other crew members are sitting in the ditch at the road's edge, possibly relaxing from the past frantic activities of the advance.

The 4. Panzer-Division participated in the rapid advance across Belgium and the Ardennes, and was then transferred with its corps to Army Group A for the attack on Dunkirk. It stood on the southern flank of the attack on the B. E. F., shoulder to shoulder with Rommel's 7. Panzer-Division. After the completion of the assigned tasks opposite the evacuating British, the XVI. Armee-Korps swung south in the drive towards Paris, crossing the Somme River at Peronne. Action followed action, and the division (and corps) swung eastward and then southward towards the south of France. When combat ended with an armistice, the division was poised outside Vichy.



In common with almost all vehicles of the German Wehrmacht during the 1940 period, our Panzer IV, was painted with a dark bluish-gray paint, that was evidently not a camouflage finish as much as a rust and metal protective coating. This dark gray-blue paint finish is the subject of this month's paint chip, at the right. The vehicle was painted with an overall coating of this color. Gray Blue was standard until the 1942 winter when a washable white paint appeared as a winter camouflage, followed shortly by other colors that offered concealment. Of course, the Afrika-Korps had changed to the lighter colors in 1941 for heat protection.

The tactical symbol for the 4. Panzer-Division during the French campaign was a runic symbol, which consisted of a "Y" inside of a circle, as illustrated below. This symbol was painted in yellow-gold (described by the Germans as "zitronen-gelb" or lemon gold), and it appeared on the hull front plate just to the left of driver's visor port and cover. It also appeared on the hull rear plate, on the far right side,

GERMAN PANZER-GRAY

5 pts Floquil RR12 Reefer Gray
2 pts Floquil RR10 Engine Black
2 pts Floquil RR56 Big Sky Blue



Tactical Symbol
4. Panzer-Division



as shown elsewhere in the article. This marking system of runic symbols was in standard usage in the Panzer-Divisions, each of the divisions having its distinctive symbol, to identify the vehicles of that division while on the march. The 1940 period markings were revised prior to the advance into Russia in 1941.

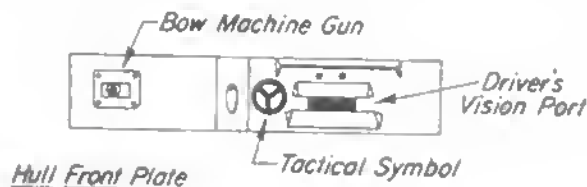
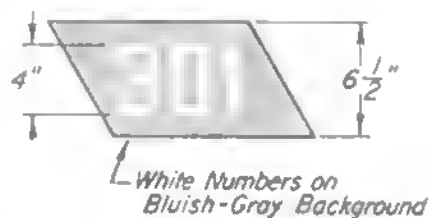
Among the German Panzer-Divisionen in France, there were 2 semi-standard numbering systems for armored vehicles. The vehicles of 4. Panzer-Division used metal number plates which were slipped into brackets on the vehicle. These plates were made in a rhombic shape, which indicated the "panzer" origin of the unit; These plates were manufactured from 1/4 to 1/2-inch thick armor plate, and were painted the standard bluish Panzer-gray. The vehi-

cle's number appeared on the plate in four-inch high characters, in white. These numbers were displayed in a three-digit pattern that designated the company, and the individual tank within that company. In our example, the number "3" indicated the 3. Kompanie, while the "01" indicated the individual tank; in our case, this number usually indicated the company commander's tank.

These tactical identification number plates were fastened to the sides and rear of the tank. On the sides, the Germans were careful to fasten the plates flush with the upper edge of the hull so that the edge of the turret could not contact the plate during traverse. On the hull rear plate, the rhombic plate was centered with the upper edge slightly above the hull upper edge, as this was a non critical location. On a model of this vehicle, these plates can be easily duplicated with sheet styrene.

Our particular Panzer IV, carried only one other distinctive or unusual marking; this consisted of two spaced white bands painted around the rear section of the gun barrel, in the oval cross-section area. These two white bands appear to have been painted in 1-1/2-inch width, completely around the gun barrel housing. It could be that these bands represent "kills"; if this be so, it would be unusual, as this practice did not become usual until later in the Second World War. Another possibility for these markings is that they represent a regimental identification. There were two Panzer-Regimenter in the 4. Panzer-Division, the 35th and the 36th. There exists the possibility that the bands designate one of these regiments.

Identification Number Plate

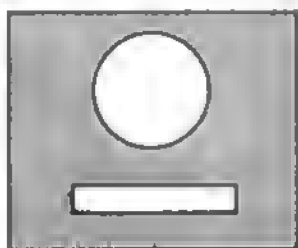


erous casualties that had occurred during the hard and fast French campaign. The division was not used during the Balkan campaign, being held as an Oberkommando des Heeres reserve unit while

ARMoured FORMATIONS OF THE BRITISH ARMY

1st Armoured Division, El Alamein

by Bill Platz



10TH CORPS

Green square with a white rectangle at the bottom and a white ball at the top

command of 8th Army while refitting in the rear areas. However, several of the Brigade's supporting units had been detached and were soon to be involved in the fighting. 1st Armoured was positioned a few miles to the south and west of the 2nd New Zealand Division at Minquar Qaim to cover the exposed desert flank of Matruh. Both formations, along with a brigade from 5th Indian Division and the motor infantry of 7th Armoured Division, were under the command of 13th Corps (Major General W. H. E. Gott). The actual defense of the port, however, was the responsibility of 10th Corps composed of two infantry divisions and some supporting units. (Including the 11th RHA from 2nd Armoured Brigade).

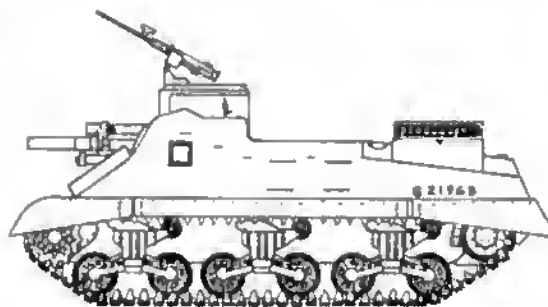
On the afternoon of the 26th, Panzer Army Afrika launched its attack. By the next day 90th Light Division had penetrated the weakly held gap between 13th Corps and the Matruh garrison; but further south, Rommel's plans had miscarried. Instead of an unopposed sweep around the flank, 15 Panzer ran head on into Lumsden's reconstituted division, while 21st Panzer ran afoul of the New Zealanders. For the Germans it was a critical moment. The Italians were far behind advancing along the coast road, and the German units were exhausted and under strength. Rommel was relying on his momentum to carry him through; that he was able to succeed can only be explained by the failure of Gott to exercise command over his troops, and Lumsden's failure to take advantage of the opportunities presented to him.

As the last light faded on June 27, 1942, 21st Panzer had been reduced to 14 tanks and was barely able to hold off an attack by the Bays, returning with their new tanks to join the division. 15th Panzer had made little progress against Lumsden's main body (so little in fact that the 3rd GLY was detached that afternoon and sent to help the New Zealanders). It was a golden opportunity for the British to destroy the German armour; but Gott, misled by the rout of some transport lorries, ordered a retreat (1st Armoured HQ received the order at 1655 on the 27th). Furthermore, a communications failure between 13th Corps, 8th Army, and 10th Corps left the troops in Matruh without any knowledge of Gott's withdrawal until the following morning. The result was disaster.

The next morning the Germans closed their ring around the defenses of Matruh, and even the Italians were able to come up into support. That afternoon Rommel planned to storm the perimeter, as he had overwhelmed the fortress of Tobruk. But, the British garrison had finally received orders to break out to the east and fall back on the Fuka position (The message had arrived at 0430 on the 28th, after the encirclement had been completed), and the staff of 10th Corps had also spent the day making plans. The resulting clash was a nightmare for all concerned. Staff officers and generals engaged hostile columns with their side arms, while British aircraft and Axis artillery attacked everything that moved-indiscriminately. Typical of that wild night, and indeed of the whole retreat

While the Axis forces were breaching the Tobruk perimeter, the remnants of 1st Armoured Division were withdrawn to Buq Buq behind the Egyptian frontier; and, with the exception of the composite regiment sent to 4th Armoured Brigade, the division had assembled there by June 17th. Tobruk fell on the 21st, and two days later it was decided that the frontier positions could not be held with the depleted units then available. The "Gazala Gallop" was on again.

By June 26th Lumsden, still commanding the division, had gathered together 159 tanks in the area southwest of the port of Mersa Matruh. These were assigned to 22nd Armoured Brigade and included 60 Grants. 2nd Armoured Brigade had been detached from the division and was now under the direct

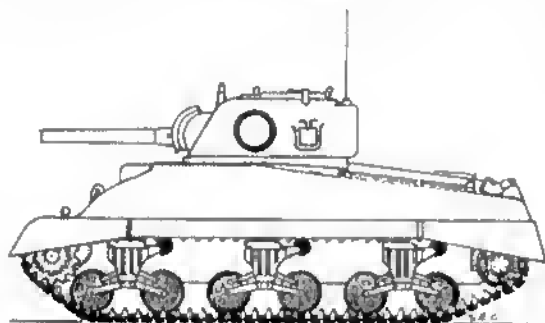


M7 "Priest" Self-Propelled
105mm Gun of
11th RHA, October, 1942

Infantry divisions held Rommel's army at bay, 1st Armoured assembled its remaining 68 tanks on the eastern end of Ruweisat Ridge behind the main line; from here on the afternoon of 1 July, Lumsden launched 22nd Armoured Brigade in an attack on the German armour at Deir el Shein. The attack arrived too late to save 18th Indian Brigade, which had been overrun; but the Germans had suffered heavy losses. 2 July 1st Armoured moved west along the ridge in an attempt to get into the rear of the enemy attacking the South Africans in the "box" at Alamein; but Rommel too was thinking of this, and Lumsden ran directly into the tanks of the DAK trying to get behind the British. It was a stand-off and neither side was able to advance. 3 July Rommel tried again, driving along the ridge with the Panzers, while Ariete Division attacked from the southwest. The British armour held firm; 1st Armoured lost 39 tanks in the battle. On the evening of the 3rd, Rommel wrote that he had been "compelled to discontinue attacking. . . " The Gallop was over.

It was now the British turn to attack, but again success eluded Auchinleck. Fighting continued throughout July along Ruweisat Ridge and in the south, with only minor gains. 2nd Armoured Brigade returned to the division on July 5th, with 5th and 6th RTR in place of the Bays and 10th Hussars; 4th Armoured was sent back to refit. There was to be no rest for the Axis, however, and the fighting continued - thrust, parry, thrust. On July 14th, Lumsden was wounded in a Stuka attack and Maj. Gen. Alec Gatehouse took over command of the division; but he too was hit three days later and command passed to Brigadier Fisher. Then on August 3rd the division was withdrawn to the Nile delta for rest and refit.

Throughout August and September, 1st Armoured remained out of the fighting while the final German offensive was crushed at Alam Halfa. Lumsden, now recovered from his wound, was promoted to Lt. General and given command of a reconstituted 10th Corps. This was now to become an armoured striking force with 1st, 8th, and 10th Armoured Divisions attached. Raymond Briggs moved up to command a completely reorganized 1st Armoured. 22nd Armoured Brigade had been replaced by 7th Motor Brigade with 3 Motor Infantry Battalions. 2nd Armoured Brigade had recovered its original regiments, detached during the July battles, and now was equipped with 92 of the new American Shermans along with their Crusaders. The division also received the Self Propelled 105mm Priests, again of American manufacture, and these were attached to 11th RHA.



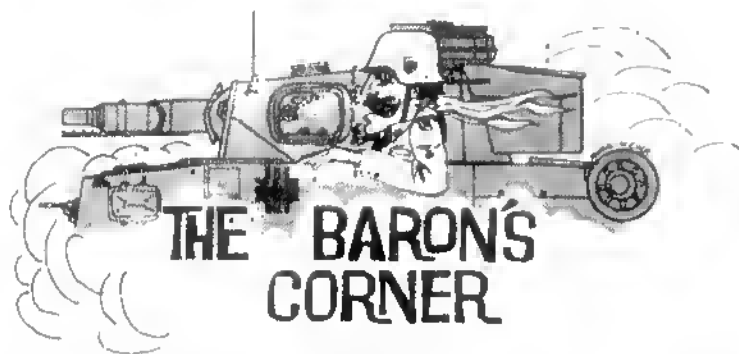
M-4A1 Sherman of 9th Lancers, Oct. 1942

As part of 10th Corps, the division was assigned the support of the infantry attack Montgomery planned for October 23rd, 1942. 1st Armoured would pass through the infantry on the morning of the 24th, form an anti-tank screen in favorable ground, and engage and destroy the Axis armour expected to counterattack. At 2210 on the 23rd, the division artillery joined in

the "Montgomery Overture", a massive artillery barrage. Gaps were cleared through the German minefields, and the tanks were to push through by 0400. Unfortunately, not all the routes were clear and several Shermans were lost to mines. By dawn, the Division was still in the mine belt northwest of Miteirya Ridge. For the next 3 days, Oct. 24th, 25th and 26th, the Division engaged in a battle of attrition with 15th Panzer and the Littorio Armoured Divisions. Losses on both sides were heavy (the Axis lost 117 tanks in three days); but the British could afford them far better than Rommel. On the 27th, the Axis brought up 21st Panzer from the southern front and launched a counterattack against 1st Armoured's position near Kidney Ridge. This attack was stopped cold by 76th Anti Tank Regiment and 2nd Bn Rifle Brigade at a place called "Snipe" (see map). These two units held an exposed position in front of the rest of Briggs armour, and calmly proceeded to shoot up every Axis tank that came their way. (33 wrecked tanks were later found on the outskirts of the position.) Lt. Col. Turner of the Rifle Brigade was awarded the Victoria Cross for the action.

On the 28th, 1st Armoured was withdrawn from the slugging match in the north and pulled back to reorganize. The division was to be employed in Operation Supercharge - the final breakthrough, and for this the 8th Armoured Brigade was attached to the division.

In the pre-dawn hours of November 2, 1942, 8th Army armour prepared to force a passage through the German gun line along the Rahman track. 2nd New Zealand Division, with 9th Armoured Brigade attached, was to make the initial attack; 1st Armoured would then follow through the hole



Modeling Hints by Norb Meyer

The subject of this month's article will be the proper application of decals, and a brief discussion of some extras available. As a bit of an introduction to decals, we should mention the basic types. There are two; one is the "wet transfer" type which must be soaked in water, and the second, which we are beginning to see more of, is the "dry transfer" type.

First, the "wet transfer" type decal is the kind that most of us have been using, and these come in two basic types. One style is the semi-gloss finish type, and these decals are the ones to stay away from if possible! If you do use this type, then they, the decals, must be sprayed with a mat finish; brushing with a flat varnish just won't do. The other type of "wet transfer" decal is the mat-finish type, and more and more model kits are coming-out with this style of decal. These don't always require an overspray; looking acceptable without this. A basic understanding of the construction of the decal itself seems to help one understand what needs to be done in using these products. The "wet transfer" decal is a film with glue on the underside, and the color or ink on the outward side. Some styles are made so that the film will dissolve slowly, leaving only the ink or color when completely applied; this type is rare unfortunately. The decals are usually made by first putting-down the base film (which is usually sprayed), and then one color is printed. After the first color has dried, a second printing with another color follows. If the sheets did not go through the press in complete alignment, one color may be off-registered, or out of place, in reference to the first color. When this off-registration has occurred, you may as well forget the decal, as there is nothing that can be done to improve the appearance. Some companies are now producing decals with no color applied over another color; the decals must be applied over each other to produce a two color application. This, of course, cures the registration mess. Another poor feature of the "wet transfer" decal is the "flash" at the edges of the printed image. This can be seen by angling the decal to the light, if necessary. This "flash" should be removed from the decal before application; with a sharp X-acto knife and a straight edge for the straight lines on the decal, and a steady hand for the rounds and other curved areas. Scribe into the film just enough to score the paper, but do not cut all of the way through. Enough time should be taken to insure a good job. When finished, dip the decal into water until the paper backing is thoroughly soaked, and then lay the decal on a piece of paper toweling for about one minute. Test the cut-away portion of the film, to see if the glue is moist enough to allow the decal film to slide from the paper. When it is, use the end of a '000' clean paint brush to slip the "flash" entirely from the paper. After this has been done, apply the decal to the surface of the model, and with a piece of paper towel, blot or dab off the excess water, until the decal appears dry. Now, with another brush, brush "Champ Decal-Set" onto the decal lightly until the surface again appears wet. Go back again with your paper towel and begin to dab the decal dry again, lightly at first and then gradually applying more pressure. The decal is now set; leave it alone overnight, and it will look painted onto the surface. If there is a small amount of shine to the decal, dust over it lightly with an overspray of weathering paint; but not too much. This will remove the shine and provide a more weathered appearance.

The second type of decal is the "dry transfer" type, and the application technique is a bit more simple. Let us talk first about the construction of this type of decal. The "dry transfer" type is made by printing the decal itself onto a sheet of plastic, which acts as the carrier for the ink. The decal is, of course, printed as a "mirror" image onto the plastic sheet. A wax coating is then applied over the ink printing, and the product is ready for use. The decal is applied to the model surface by first positioning the plastic sheet over the exact spot where the marking is to be placed. The plastic sheet is then rubbed; this transfers the decal to the model, where it is held by the wax coating. The big problem with this type of decal is that it must be fixed; this can be done by first burnishing the markings with the enclosed wax backing sheet. The decal is then sprayed with a

- Continued on Page 17 -

17-Pounders

By Jim Garrison



The story of the 17-pounder goes back to the days when the British were taking it in the ear in North Africa. Now, the British were not ignorant; and, when the Germans started tearing them apart with 50mm, 75mm and 88mm shells, they realized that their standard 2-pdr. (40mm) gun would soon have to be replaced. After two years of war, the 6-pounder (57mm) was given its chance. At the same time, work began on the 17-

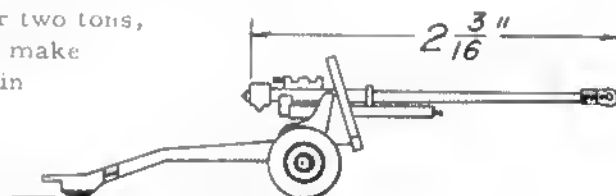
pounder anti-tank gun; actually of 76.2mm caliber

The first 17 pounders to see service were mounted on the carriage of the 25 pounder gun-howitzer. This was because the production of the field carriage for the 17 pdr. was behind that of the gun itself. One hundred of these hybrid guns found their way to North Africa before the end of 1942.

The 17 pounder anti-tank gun weighed a little over two tons, and for this reason there was no delay in attempting to make a self-propelled version. The first idea was to put it in the M-10 GMC tank destroyers, which the U.S. would soon be lending or leasing to the British; but arrival of the first M-10 showed that its turret was too small for the recoil of the 17 pounder. Later M-10's had larger turrets, and to these the 17 pounder was fitted easily - the result was the "Achilles."

While the above weapons satisfied the anti-tank formations, the tank squadrons needed something to deal with Germany's iron cats, "Panther" and "Tiger". At first the idea of putting the 17 pounder in the Sherman was not very popular; but, after the British failed to come up with something better, it was tried again. By twisting and turning, and putting the radio transmitter outside the turret in an armoured box, a satisfactory mounting was found for the 17 pounder; and the Firefly was born in time for the Normandy landings.

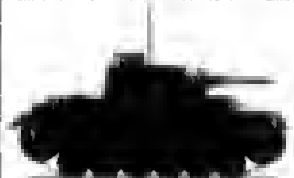
Taking these weapons in order, the towed version is in 1:76 scale, but I have never met a wargamer so scale-conscious as to let that small discrepancy bother him. Build the Airfix 25-Pound Field Gun exactly as the directions indicate. Then, at some convenient point on the gun barrel,



17 Pounder Towed
Scale: NONE

replace the end section with the barrel from the "Minitanks" M-41 (Z-207). The barrel thus made should be 2 and 3/16 inches long from muzzle brake to breech block. Now finish the conversion by sanding the M-41 muzzle brake to a ball shape, and you have an early version 17-pounder anti-tank gun.

The "Achilles" conversion is not much harder. Here we replace the entire M-10 barrel with the barrel from the M-41 as with the towed version. (The "Minitanks" M-10, Z-205, is the later style with the larger turret) However, some modifications to the turret's interior are needed, as follows. The breech block should be cut off and turned so that the slot is facing upwards, a change that should also be made on your regular M-10's, and the muzzle brake sanded down as mentioned above. Your



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"Achilles" is now complete and ready to take its place in the British Anti-Tank Regiment, along with the towed 17-pounder. In 1944, there were 24 17-pounders of each type in this formation, organized in four batteries of 12 guns each.

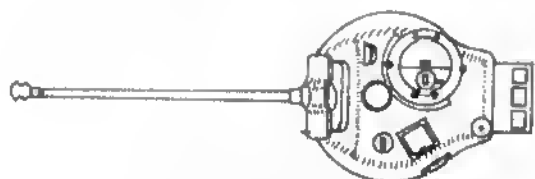
"Firefly" was the name given to any of the Sherman tanks fitted with the 17-pounder gun, and the modification was indicated by the letter "C" after the vehicle's designation. The most common "Firefly" was the Sherman VC (spoken "Five-C"), since the British received more M4A4's or Sherman V's than any other model. However, all models of the Sherman received the 17-pounder conversion, and it was possible to find Sherman IC's, Hybrid IC's, Sherman IIC's, IIIC's and IVC's also. Because the "Minitanks" Sherman more closely resembles the Sherman IV (or M4A3), the following conversion is for the less known Sherman IVC.

Since the "Firefly" did not have a counter weight behind the muzzle brake, we cannot use

the M-41 gun barrel this time. Instead, use the barrel and mantlet from the M-36 Tank Destroyer (Z-206), trimming the mantlet to fit the front of the Sherman turret. The best and quickest way to make a muzzle brake is to use a small round bead (available from any store that sells craft supplies); flatten one side and cement this to the end of the M-36 barrel. To add the radio compartment on the rear of the turret, use Plastruct 3/16-inch square tubing cut to a length of 3/8-inch. Make a second hatch for the turret from a piece of sheet styrene and cement it to the roof as shown in the turret top view drawing above. This completes the turret and it can be assembled on the body of



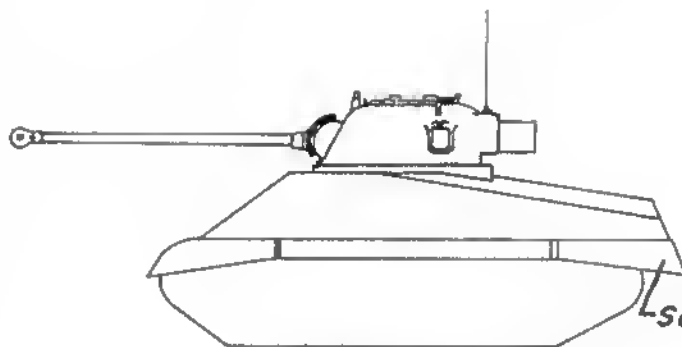
ACHILLES TURRET
Scale: NONE



"FIREFLY" TURRET
Top View - Scale 1/86

the turret top view drawing above. This completes the turret and it can be assembled on the body of our converted "Minitanks" Sherman IVC.

The side view of the Sherman, shown below, can be used as a template for the construction of sand shields, which were typical on most British tanks. A result of experience in North Africa, these were of limited value in Europe and many were removed by the crews in the field. Details of the front of the sand shields can be found on any drawings of the Sherman VC. Because of the size of the 17-pounder shells, the bow machine gun was removed and its position was used for ammunition storage. (This also meant one less crew member at a time when man power was growing short.) The hull machine gun port on the hull front was covered over with a plate - the only exterior change to the hull.



Side View - Scale 1/86

The British issued "Fireflies" to tank units on the basis of one "Firefly" per Troop. Those units in North West Europe had priority on the available "Fireflies", and many formations in Italy did not get any until late in 1944 or early 1945. However, the "Firefly" was a great equalizer for the allies, giving them a tank gun that was comparable to the German '88' in effectiveness.

The Barons Corner, (Continued from Page 15.)

mat-finish fixative or varnish. The final effort is well worth it, however, for it does look as if the decal were painted onto the model.

Decals come with most armor kits, and some of the later kits are well supplied with excellent decals. There are other commercial types that are available, which have much improved in recent times. These products offer the modeler the variety that kit decals do not have. Some types require more care and word than others; Altmark, for example, must be trimmed completely, while Micro-Set must be handled carefully since they have been made with a very thin film, in order to increase the realism. As far as recommendations go, try various types and use the ones that you have the best luck with.



Insignia
FOURTH MARINE DIVISION



Insignia
FIFTH MARINE DIVISION

Marine Tanks in the Pacific - Part XI.
by Joe Struck

Iwo Jima has become an epic example of the War in the Pacific. Although only 4-1/2 miles long by 2 miles wide, the loin-chop shaped island was defended by 21,000 Japanese troops in carefully prepared and fortified positions. The island was mostly flat except for Mount Suribachi, an inactive volcano 556 feet high. The Japanese decided to use the same defensive tactics that had proven so successful on Peleliu; they would let the Marines get on the island beaches, and they would defend the honeycombed hills and gorges.

The assault was made on February 19, 1945 by the 4th and 5th Marine Divisions. The Shermans of the 4th and 5th Tank Battalions began landing within the first hour, on beaches clogged with wreckage and covered with smoke and savage bursts of Japanese artillery fire. Sixteen Shermans of Company C, 4th Tanks landed from two LSM's, while on the left, the landing craft carrying the 5th Tank Battalion made it in through the rough surf.

The Shermans were hit as they tried to climb up the volcanic sand of the first terrace. A Seabee operating a bulldozer hesitated to cut an exit from the beach, since bodies littered the sand ahead. But, he closed his eyes and ground forward-- the Marines needed the tank support. The Shermans struggled up the cut, but slowly sank into the coarse sand. A bulldozer hooked a towing cable to the lead M4 and together, they ground up the first terrace. The Sherman moved off toward enemy positions, until it was hit by a 47mm AP shell which pierced its turret armor, exploding stacked ammunition and staining the crewmen all over the interior. It was the way that many tankers died.

Most of the tanks that got over the terraces ran into mine fields, which made them choice targets for anti-tank guns. They fired back as best they could, while engineers, exposed to the heavy enemy fire, probed for the mines with their bayonets. Mine detectors were useless to locate the ceramic-encased mines in Iwo Jima's magnetic sand. When the path-way was again clear, the tanks began moving inland.

Marines greeted the arrival of the Shermans with mixed emotions. They welcomed the covering fire of the 75's, but they cursed them for drawing heavy artillery fire. There was a surprising amount of opposition left in the narrow neck of the island and Mount Suribachi. Naval and aerial bombardment had not eliminated the defenders, and they fought to the death. By the end of the day, 5th Marine Division's troops had succeeded in cutting-off Mount Suribachi. Eleven of the 5th's tanks were lost, while forty were still in operating condition. Meanwhile, the Marines of the 4th Division had gained a beachhead 1000 yards deep.

The second day was cold, wet and miserable. Tankers scrounged among the wrecked tanks to get ammunition and gasoline, under continual artillery and mortar fire. The 28th Marines faced south towards Mount Suribachi, while the rest of the Marines faced north towards the remainder of the island. In the afternoon, the tanks moved up, and the attack toward the base of Suribachi began to make more progress. Meanwhile, the attack to the north, assisted by the 4th Tank Battalion, over-ran Airfield #1. On the west coast, the rest of the 5th Tank Battalion, led the advance through minefields and heavy enemy fire.

Two days later, the 4th Division cemetery was started and burials began. A foot of a 4th Tank Battalion corporal was found near Airfield #1, and it was duly buried in a regulation grave.

A week later, word came that its owner was in a hospital on Saipan, and the foot was resurrected. On the fourth day, Marines gained 300 yards in an uphill attack against pillboxes, bunkers, and minefields. By the end of the day, eleven tanks of the 4th Battalion had been destroyed, eight were under repair, and twenty-eight were still operational.

Mount Suribachi fell on the 5th day, and the 3rd Marine Division landed, along with 25 M4's of the 3rd Tank Battalion. All three Tank Battalions were placed under the command of the 5th Marine Tank Battalion's CO, Lt. Col. William Collins, to support the main drive planned in the center of the line. The 3rd Division Marines attacked in the center on the 6th day; behind them came all of the tanks. Marines fought forward 800 yards and breached the main Japanese defense line. Three tanks were hit and six more were damaged in the minefields.

The main drive continued the next day as 26 tanks rolled across the second airfield. When "Agony" was stopped by a hit, Cpl. William Adamson bailed out. As he sat in the pall of smoke alongside his tank, bandaging his wounds, he saw the flash from the muzzle of a hidden anti-tank gun. He crawled in front of "Ateball" and pointed out the gun. "Ateball" silenced the gun. The corporal then pointed out more targets: four machine gun positions, a Japanese with a satchel charge, and 30 infantrymen sneaking along a ravine. "Ateball" got them all. When a tank retriever came for "Ateball" it picked up Adamson through its bottom hatch. The Marine advance lost nine tanks this day.

During the next few days, the Marines struggled northward in a series of costly battles. As the terrible assaults continued, suicidal Japanese again and again tried to plaster themselves on the tanks with demolition charges and anti-tank mines. The heavy planks on the sides of the M4's usually absorbed the blasts, and the 4th Tank Battalion's precaution of welding nails on all exposed surfaces proved very effective.

The 4th Division captured Hill 382 after nine days of assault. The "Turkey Knob" held out a little longer, even when flame tanks poured streams of fire through holes that had been blasted in the blockhouse walls. From here on, the ground was so rough and broken that tanks could hardly be used. Tank crews worked on their tanks to get them ready for the final drive.

The Japanese 26th Tank Regiment counterattacked on the 17th day and cut-off two Marine infantry companies. Marine tanks went in to try to extricate them, but were frustrated when the lead Sherman hit a mine in a narrow ravine. Only a few survivors of the two units were eventually rescued after 36 hours of fighting.

By the 19th day, the 3rd Division had reached the coast, cutting the Japanese forces in two. Six days were spent in reducing the eastern pocket, with frequent assists by flame tanks. The remaining Japanese were pressed into a square mile of the worst ground on Iwo Jima. Ridges and gorges cut the area, with caves and dug-outs pocking the sides of each ravine. The most formidable of these, "Death Valley", held out to the last. For a week, the 5th Tank Battalion, with all available tank dozers and flame tanks, fought up through the center. The flame tanks averaged 10,000 gallons of flame fuel per day. Losses were heavy on both sides.

Finally, on the 28th day, the Marines reached the huge concrete blockhouse at the end of the gorge. Tank dozers pushed paths through the rock rubble, and sealed off some of the openings. Shermans blasted holes in the walls, while flame tanks poured in streams of fire. The blockhouse still held out. The next day, while flame tanks hosed the area, tank dozers pushed more dirt and rubble over the blockhouse air vents. Engineers used five 1600 lb. demolition charges before the blockhouse finally caved-in.

Reduction of the gorge continued until March 25th, D plus 35, when Marines were able to traverse it without drawing fire. In the early morning darkness of the 26th, 300 Japanese came out of the gorge and made a suicidal attack on Airfield #2. It was finally the end of organized resistance and daylight brought the declaration that Iwo Jima had finally fallen after 36 days of fighting.

The conquest of Iwo Jima was one of the most costly battles in United States history; US casualties totalled more than 21,000, including 4500 killed. In exchange, about 22,000 Japanese were killed or captured. Tanks had proven invaluable, as they were the only weapons which had the protection necessary to close with the entrenched enemy and blast him out of his defenses. The Sherman's heavy fire power frequently was the deciding factor; even though tank movement was often restricted by the broken ground. The Japanese defenses were so well planned that the Marines usually felt that they were fighting an invisible enemy. Fittingly, the photograph of the raising of the U.S. flag on Mount Suribachi, taken by Joe Rosenthal of the Associated Press, became a symbol of the bloody conflict. The Marines had fought their toughest and longest battle, but their comrades in the other three Marine divisions would face a similar ordeal on Okinawa.

BATTLE PROBLEM

By Keith Ludowitz

Is the pillbox an effective defense? Here is a game that is designed to find out. In his memoirs General George S. Patton notes the elaborate German bunkers on the Sauer River line, and comments that "all these defenses... produced nothing." The 90th Division alone put one hundred and twenty bunkers out of action in forty-eight hours - with minimum losses.

Let's attempt to create a more effective defense - then build a strategy to defeat it. The game requires a few simple (?) model bunkers, which may be constructed from balsa wood. These should have two separate rooms or casemates with an 88mm emplaced in each. To support the bunkers, the German player also has 3 Pzkw. IV's, and 3 squads of infantry. Naturally, the pillboxes must cover the tactically important areas of the board, and should be arranged so as to cover each other's rear while the infantry protects the entrances to the bunkers from hostile footsloggers. Remember, the German is most effective at long ranges where the @### Allies can't hurt him.

For the Allies, there are two practical methods of eliminating concrete bunkers: First, to knock them out with self-propelled 155mm guns at close range. (All other Allied guns are restricted firing at bunkers with an "E" firing table - see AFV G-2, Vol. II, No. 4; July, 1970). Each individual casemate must be destroyed separately; and, when a bunker is damaged, a die is rolled to determine the number of turns that casemate is incapacitated. Second, to destroy the bunker by infantry assault. This is done by maintaining an infantry squad within two inches of a bunker entrance. To crush the Germans, the Allies have 10 Shermans, 4 M-40 SP 155mm, and 4 M-3 Half-tracks with an infantry squad in each.

To win, the Allies must destroy all those blasted bunkers. If they fail, the Germans are victorious. In any case, it should be remembered that a defense line is only as good as the troops holding its flank..... just ask any Frenchman.

The British 1st Armoured Division... Part III. (Continued from Page 14.)

and attack the Axis armour. The orders were to break through regardless of casualties, and 9th Armoured Brigade lost 75 of 94 tanks in the attack, but a breach was made. Into this breach Briggs launched 2nd Armoured Brigade. The German also reacted ordering both 15th and 21st Panzer to counterattack. Briggs ordered the 2nd to hold its ground and deployed the 7th Motor Brigade with its AT guns in support of the tanks; 8th Armoured Brigade was also ordered to join up. Axis tanks were attacking from three directions (NW, W, and SW) and every available 88mm (24) had been sent into action. This was the critical moment and both sides knew it.

The heat was stifling. The gunners, their eyes pressed to their sights, watched their targets shimmer and dance in the heat. "Traverse left! Fire!" A M-13/40 stops and smoke billows up, the hatches remain closed. Whang! A 2 cm round ricochets high into the air. MG fire rattles on the shield of a 6-pdr. of the Yorkshire Dragoons; the gun fires and a spurt of sand erupts near an oncoming Panzer III. The Huns are in among the infantry! Counter-attack! "Driver advance! Halt! Gunner, traverse right! 75! Fire!" For all of that long afternoon, the battle raged. Six times, the Axis tanks attacked and were driven back. As darkness fell, 1st Armoured Division remained in its position, not quite across the Rahman track 8 miles east of Tell el Aqqaqir.

The following morning, 51st Highland Infantry Division and 5th Indian Brigade launched

attacks against the remaining gun positions, while 1st Armoured Division continued to exert pressure. By 1500 hrs on the 3rd, Rommel realized that the battle was lost; only Hitler's intervention prevented an Axis withdrawal. Then, on the night of November 3rd/4th, the final British attack was launched, and the pursuit to Tunis began. Next month, from the desert to the mountains; the 1st Armoured Division in Tunisia and Italy.

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The Modeler's Page

Devoted to the examination by photograph of some of the best examples of Armor Models, from Super-detailed Kit models, to unusual and unique Conversions, and finally, to the complete Scratch-Build armor model, the highest form of the modeler's art.



This month's model is of a U.S. Army M-4A3E8 Sherman tank. It was made by Mr. Jerry Hahn, of Fargo, North Dakota. The Revell suspension from their M-4A1E8 kit was used, merged with the hull & turret of the Tamiya Sherman kit, which is of a M-4A3E2 (?) Mr. Hahn's kit was given some spare road wheels and equipment to give a more used and worn look, and the decals were placed to show a vehicle undergoing test at the Ordnance Center at Aberdeen, Maryland. Note: Tamiya has since re-released their M-4A3 with HVSS suspension,



German Wehrmacht tank tactics of the late 1930's emphasized an organization that was to be changed as time and the war changed ideas. The experts of the German Army who were charged with operational planning, envisioned an armored attack as an armored spearhead or arrowhead. This attacking force was based on the Panzer-Abteilung (or Tank Battalion), and it was specified that the point and flanks of the attacking arrowhead would consist of the three Light Tank Companies of the Battalion; one on each flank, and one at the point of the attack. The main hard core of these units was to consist of the Panzer III. or Panzer 38(t) Czech tanks, with a surrounding reconnaissance screen of lighter Panzer II. tanks. These Light Tank Companies were described in Volume 2, Number 3 of AFV-G2. It was planned that the center hard core of the armored spearhead would consist of the Battalion's Heavy Tank Company, which is the subject for this month's article.

Our example of a Heavy Tank Company was drawn from Panzer-Regiment 2., one of the component regiments of 1. Panzer-Division. This regiment was composed and organized with two identical Panzer-Abteilungen, as outlined in the previous article, in the June 1970 issue. The standard Panzer-Abteilung was organized with the 1st, 2nd and 3rd companies of light tanks, and the 4th company of heavy tanks. The companies of the II. Abteilung were numbered in consecutive order, with the 5th, 6th and 7th companies of light tanks, and the 8th company of heavier tanks.

The standard heavy tank of the 1940 German Panzer arm-of-service was the 20-ton Panzer-kampfwagen IV., which mounted a short-barreled 7.5cm KwK (or 75mm Tank Cannon). The most modern version of this tank then in production was the Ausführung D (or Model D) even though many of the units were still using earlier variants. The 75mm weapon of the Panzer IV. was to prove-out as an excellent infantry support weapon, capable of destroying enemy machine gun posts, bunkers, and pillboxes with high-explosive shells. This weapon was to be inadequate in dealing with enemy armored vehicles; the armor-defeating shell traveled at less than 1200 feet per second and was not able to penetrate the average French armored vehicle at over 250 meters range.

The proposed tactic of the armored spearhead was for the light tank companies to engage the enemy and to handle the great majority of the enemy tanks. The heavier fire support of the Panzer IV. equipped companies was to be available on-call, to deal with targets and tanks that the lighter-equipped units couldn't handle. In reality, this situation was changed soon after the start of the French Campaign. The Blitzkrieg "steamroller" that had easily handled inferior Polish armor, was slowed and baffled by the heavier and more modern French tanks. In actuality, it was the mass of the German attack, concentrated at the critical points, that succeeded and created the fast-moving campaign. Often the Panzer IV. equipped companies were placed in the embarrassing position of being useless to assist the hard pressed Panzer III.'s or Panzer 38(t) tanks of the other companies that were calling for fire support. Quite often, the heavier tanks had to request fire support to help themselves.....

The schwere Panzer-Kompanien of Panzer-Regiment 2. consisted of 5 officers, 66 non-commissioned officers, and 14 enlisted men, according to the KStN and KAN (or official TO&E). In reality, the number of enlisted men was quite a bit higher, since promotions were difficult in the pre-war period, being based on much experience and ability. The company was usually commanded by a Hauptmann (or Captain), later in the war period, most companies were commanded by an Oberleutnant (or 1st Lieutenant) as officer casualties were high during the early campaigns. The company commander led his company with a small two-tank section. The remainder of the company was organized into four platoons; each led by a Leutnant (or 2nd Lieutenant).

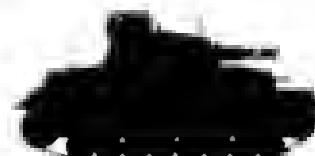
The First Platoon was organized with 1 officer and 14 non-commissioned officers. It was fully equipped with five light Panzer II. tanks armed with a single 20mm gun and two light machine guns. The original plans had been for this platoon to also have the heavier Panzer IV. tanks, but there were just not enough of these larger tanks to go around. The light Platoon was organized for reconnaissance and screening missions, and they were ordered to avoid combat unless necessary, since the 20mm gun could not do much damage.

The other Tank Platoons were equipped with the standard Panzer IV. tanks, there being four tanks per platoon; with a strength of 1 officer, 15 non-commissioned officers, and 4 enlisted men in the platoon.

The services that were normally required by any unit of the Wehrmacht, ie. Mess, Administration, Supply and Maintenance were all supplied by Battalion or Regimental Headquarters.

HEADQUARTERS SECTION

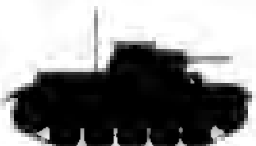
1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 OFF Company Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader

FIRST PLATOON

1 NCO Tank Cmdr.
1 NCO Gunner
1 NCO Oriver



1 NCO Tank Cmdr.
1 NCO Gunner
1 NCO Oriver



1 NCO Tank Cmdr.
1 NCO Gunner
1 NCO Oriver



1 NCO Tank Cmdr.
1 NCO Gunner
1 NCO Oriver



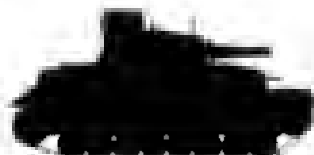
1 DFF Platoon Leader
1 NCO Gunner
1 NCO Driver

SECND PLATOON

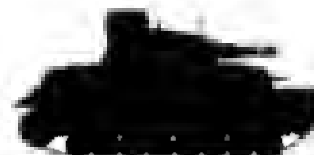
1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Oriver
1 EM Loader



1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 DFF Platoon Leader
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader

THIRD PLATDDN

1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 OFF Platoon Leader
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader

FDURTH PLATDDN

1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



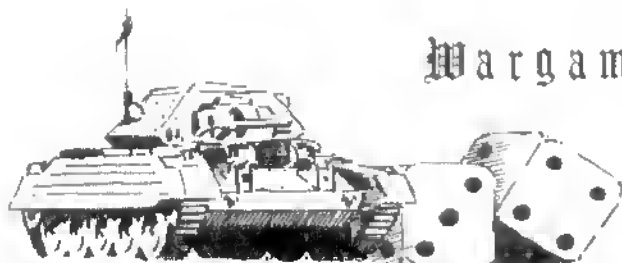
1 NCO Tank Commander
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



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1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



1 OFF Platoon Leader
1 NCO Gunner
1 NCO Radioman
1 NCO Driver
1 EM Loader



Wargame Review

"On The Waaaaaaaay....."
Artillery Rules by Carl Weaver

Last July (Vol. II, No. 4) we presented a firing table for flat trajectory guns; however, no war-game would be complete without the big guns, and we will now discuss indirect artillery fire. There is a great deal of difference in firing a tank's cannon and delivering a salvo of artillery fire. For one thing, the artilleryman rarely sees his target and must depend on a Forward Observer.

All artillery units must have Forward Observers attached, the exact number to be determined prior to the start of the game by the referee. (A recommended number is 3 "FO's" for each battery of guns.) FO's may ride in their own vehicles or in specific tanks; however, they must be designated to the referee. In either case, if a FO's vehicle is knocked out, the observer also ceases to exist; and his replacement is up to the referee. Observers may move from vehicle to vehicle during a game, providing the vehicles are adjacent and the referee is kept informed of all such changes.

Since it is more difficult to fire an artillery piece than a rifle, time is required to set up and emplace the guns. If artillery is to be in position at the beginning of the game, the pieces are simply set on the board and may fire on the first turn. However, if the guns are to be moved in during the game, sufficient time must be allowed to emplace them. Self-propelled pieces may move into position on one turn and fire on the next, while trailed guns must wait for one entire turn without moving or firing. (No piece may both move and fire on the same turn.) Guns may fire singly or in battery, but, if firing in battery they must be emplaced within 12 inches of each other.

In order to fire accurately, artillery must be registered or ranged-in. For this you need a registration table (see opposite page) and an impact circle. The impact circle is a 12 inch disc of clear plastic with concentric circles of 10, 8, 6 and 4 inches marked on it. These are labelled "Z", "Y", "X", "W", and "V" respectively. The eight points of the compass (N, S, E, W, NE, NW, SE, SW) are drawn around the edge of the circle, and one edge of the playing area is designated as North by the referee. If the referee allows, guns on the board at the beginning of play may be pre-registered on points selected by the artillery commander and reported to the referee. This is a definite advantage, as registered guns use a special column on the registration table. To fire on a point not previously registered, a player sets the impact circle on the intended target, rolls the dice, and consults the registration table. If this is the first round fired at this target the "1st round" column is used. As an example suppose 3 155mm guns are firing at a target. The impact circle is placed and the dice come up 5. (Note: If a 12 is rolled the burst lands directly on the Forward Observer, the penalty for poor map reading.) Checking the first round column we find that the salvo landed "1 northeast", so the referee measures off 1 foot to the northeast from the center of impact and the impact circle is moved to this point. Now we enter table 2 using the number of guns firing (3); and the size of the gun (155mm). This gives us a "Y"/"R", which means that we use the "Y" ring on the impact circle, the dice are rolled once again for each vehicle within the circle, and the "R" column of table 3 gives the effect of the barrage on that vehicle. Artillery knows not friend or enemy after the round leaves the tube, and the dice are rolled for all vehicles within the circle wherever it happens to land.

A battery is registered on a target point when its registration shot lands on target (unless you are particularly lucky this takes several salvos); and from then on it may fire on this point using the "registered shot" column, that is until the battery changes its position. Should a registered gun be moved, it, of course, loses its registration and must zero in all over again. A gun may shift targets without losing its registration points - as long as it remains stationary. Individual guns in a battery may register on separate targets; registration may be passed from one gun to another as long as they were emplaced together as a battery.

ARTILLERY FIRING TABLE

TABLE NO.1

Die Roll	1st ROUND	2nd ROUND	3rd ROUND	4th ROUND
2		MECHANICAL One gun out for remainder of the game	FAILURE	
3	2' NORTH	2' EAST	1' EAST	1' NORTH
4	1' NW	1' NW	1' NW	TARGET
5	1' NE	1' NE	TARGET	TARGET
6	1' WEST	TARGET	TARGET	TARGET
7	TARGET	TARGET	TARGET	TARGET
8	1' EAST	TARGET	TARGET	TARGET
9	1' SE	1' SE	TARGET	TARGET
10	1' SW	1' SW	1' SW	TARGET
11	2' SOUTH	2' WEST	1' WEST	1' SOUTH
12	Rounds land on forward observer if within 4' of target			

TABLE NO.2

ARTILLERY	1	2 Number	3 of	4 guns	5 firing	6
UNDER 75mm	V/M	V/M	W/N	W/N	W/D	W/D
75mm to 88mm	V/N	W/N	W/O	W/D	X/D	X/O
90mm to 105mm	W/O	W/O	X/P	X/P	Y/O	Y/O
106mm to 122mm	W/P	W/P	X/O	X/O	Y/R	Y/R
123mm to 155mm	W/O	X/D	Y/R	Y/R	Z/S	Z/S
175mm	W/R	X/R	Y/S	Z/S	Z/S	Z/S
210mm, 8" to 240mm	W/S	X/S	Y/S	Z/S	Z/S	Z/S
KARL & DORA	Z/	Z/	Z/	Z/	Z/	Z/

Total destruction of everything in circle

TABLE NO.3

Die Roll	M	N	D	P	O	R	S	DAMAGE
2			TARGET	ABANDONED				ARMAMENT OUT
3								AUTO OUT
4				D/-	D/-	D/-	D/-	AUTO MAINT.
5		D/-	D/-	K/-	K/D	K/D	K/K	AUTO MAINT.
6	D/-	K/-	K/D	K/D	K/K	K/K	K/K	AUTO CREW 1 TURN
7	K/-	K/D	K/D	K/K	K/K	K/K	K/K	AUTO OUT
8	D/-	D/-	K/-	K/D	K/D	K/K	K/K	AUTO CREW 3 TURNS
9			D/-	D/-	D/-	D/D	D/D	AUTO CREW 1 TURN
10								AUTO CREW 2 TURNS
11								AUTO MAINT.
12			TARGET	ABANDONED				ARMAMENT OUT

D= Damage Table (at right) Roll dice again to determine extent of damage.

soft skin / tank

soft skin= troops, trucks, guns and small buildings
tank= any type of tank, bridges and bunkers

TABLE NO.2 (cont.)

MORTARS	1	2 Number	3 of	4 guns	5 firing	6
Grenades & Small Mortar	V/M	V/M	V/M	V/N	W/N	W/N
60mm	V/M	V/M	V/M	V/N	W/N	W/O
82mm	V/M	W/M	W/N	X/N	Y/O	Z/O
120mm 4.2	V/N	W/D	X/P	Y/D	Z/D	Z/R
160mm	W/O	X/P	Y/O	Z/R	Z/S	Z/S
240mm	X/P	Y/O	Z/R	Z/S	Z/S	Z/S

The A 13 Cruiser

by Bill Platz

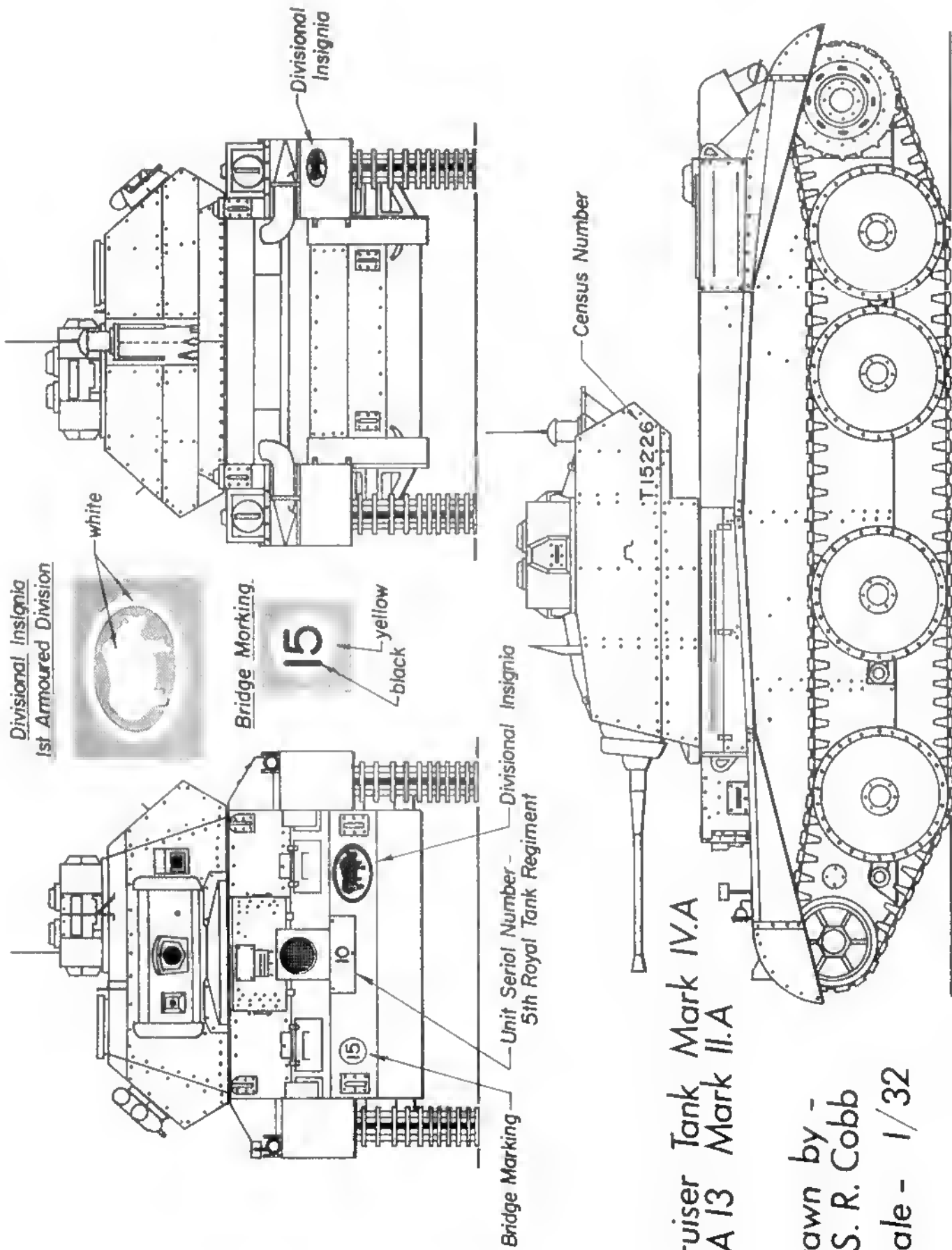
When World War II broke out, the most modern tank in the British arsenal was the Crusader Mk. IV, also known as the A-13 MK II. First produced in 1938 as an outgrowth of the Cruiser Mk. III, the Mk. IV incorporated a number of improvements over its predecessor. The frontal armour of the hull and turret was increased from 14 to 30mm; and, to each side of the turret was added a "V" shaped assembly of armour plates. When fitted, this gave the Mk. IV the advantages of both sloped and spaced armour; and it is this odd-shaped, faceted turret which is the main identifying feature of the Mk. IV compared to the Mk. III. The Mk. IVA (shown opposite) is distinguished from the normal Mk. IV by its Besa 7.92mm Machine Gun, which replaced the .303 Vickers MG of the Mk. IV.

The technical details of the Cruiser Mk. IV have been adequately covered in other publications (notably in Bellona Military Vehicle Prints, Series 20); and it is unnecessary to catalogue them here. Suffice to say that the increase in weight, caused by the extra armour on the Mk. IV, did not reduce the performance of the basic vehicle. One point that should be clarified, however, is the number of A. 13's produced. There is some confusion here; each of the sources consulted provides a different figure for total production. This runs from the 335 given by B. T. White in British Tanks and Fighting Vehicles, to 655 in Chamberlain and Ellis' British and American Tanks of World War II. Careful analysis indicates that the latter figure is the more accurate, considering the production of all the contractors involved: 305 for Nuffield M&A, 65 for L. M. S., 200 for English Electric, and an uncertain number for Leyland.

The Mk. IV A shown opposite was built by Nuffield, and delivered to the 5th Battalion of the Royal Tank Regiment in the summer of 1940, after that unit's return from the campaign in France. The 5th RTR was part of the 1st Armoured Division at this time, and our Mk. IV shows that division's white rhino on its bow plate and rear fender. In 1940, a British armoured division consisted of two armoured brigades, with a total of 6 tank battalions or regiments (in the British army these two terms were synonymous as far as armoured units were concerned). Each battalion was identified by a unit serial number which appeared on each vehicle, generally with a colored flash to denote the type of unit: artillery, signals, headquarters or whatever. The number corresponded with that unit's position on the division's order of battle. In this case, the number "10" indicates the junior battalion of the junior armoured brigade, i.e. 5th RTR. Normally this was centered on a green square; but, since the vehicle's basic color was also green, the square would not have been visible. The other marking on the front plate is the bridge classification, which indicates to an interested MP whether or not the tank can cross a given bridge without falling through. On the side of the turret appeared the WD or census number which distinguished our Mk. IV from all other Mk. IV A's. There were no troop or squadron markings on this particular vehicle. Throughout the summer the 5th RTR was stationed in southeastern England; and then in October, it was transferred to 2nd Armoured Division and sent to Egypt. Our Mk. IV A went with them, but it was an ill-fated journey, since the vehicle was lost in April, 1941 when Rommel launched his first offensive.

The only real judgment of a fighting vehicle's worth is that made by the men who fight in it; and, no matter how formidable a machine is on paper, if it fails this test it is of little value. In this the Mk. IV A was a success, while its successor, the Crusader, was a failure. In the French campaign, the Mk. IV's acquired a reputation for mechanical reliability by covering 400 miles in six days without the loss of a single tank from breakdowns. In his report to the War Office, Brig. Pope commented on the effectiveness of British armour in the 1940 campaign, listing the A. 13 as adequate as far as gun power and speed were concerned but "too thin-skinned" for future operations. Another problem that arose-particularly in the desert-was the short life of its tracks. However, the Mk. IV was well regarded by its crews and used in combat as late as Operation Crusader in November, 1941.

Units equipped with the Cruiser Mk. IV A included 2nd RTR, 3rd RTR, 5th RTR, The Bays, 9th Lancers, and 10th Hussars in the French 1940 campaign; and 1st RTR, 6th RTR, 7th Hussars, and 8th Hussars in North Africa. In addition, most of the armoured regiments formed in England during 1940 also recieved some Mk. IV A's, although the above units were the only ones to employ them in combat.



drawn by -
S. R. Cobb
scale - 1/32

Sd. Kfz. 251/7	Engineer Version with Bridging Equipment
Sd. Kfz. 251/9	Assault Howtizer Version with 7.5cm StuK 40
Sd. Kfz. 251/16	Engineer Flame-Thrower Version
Sd. Kfz. 251/17	Anti-Aircraft Version with 2cm Flak 38

This last version is the subject for this month's three-view drawing. There are several interesting characteristics of this particular version; the most noticeable of which is the angled side plates which protrude from the sides of the vehicle for increased crew space. These sides were hinged so that they could be dropped for even more working area when the vehicle was not under fire. The sides were extended with the assistance of pneumatic cylinders that slowed the descent of the sides so that they did not damage the hinging mechanism. The usual stowage boxes on the fenders of the vehicle were deleted, since the extended sides would hit them in their original position. There were two smaller boxes forward of the extendable sides on both fenders of the vehicle. Racks were provided on the left side of the hull, forward of the side vision ports, for the storage of the cleaning rods for the 2cm anti-aircraft gun; on most photographed vehicles, these racks are shown empty of the rods. Grab handles were provided on the rear of the hull on both sides, for easier dismounting and mounting of the crew. The gun that was carried in the 251/17 version consisted of the standard 2cm Flak 38, which had a four man crew. The gun was mounted on a circular turntable at the front of the crew compartment which allowed 360 degree traverse. The gunner sat at the rear of the gun, slightly on the right side; he sighted and controlled the movement of the piece, as well as the shooting. The primary loader was stationed on the left side of the gun, in order to quickly exchange magazines as required. Two additional loaders were available to keep magazines filled and to assist in passing filled magazines. The gun was provided with a wire-mesh basket on the right side, to catch the expended shell casings and keep them from jamming the turntable mechanism. The gunner was provided with an individual shield immediately behind the ejection basket, this was split to allow vision through the sight. The left side of this shield was stationary, but the right side could be hinged inward to clear obstacles. The forward gun shield was cut on the right side so that the gunner could see at lower elevations of fire; this larger shield was provided to protect the gun's mechanism and the loader from enemy fire.

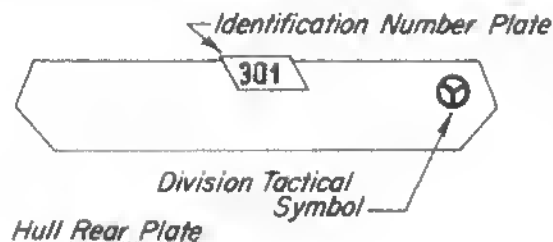
The Sd. Kfz. 251/17 was provided to Panzer-Grenadier units as part of a program to increase the available anti-aircraft protection. For a period of time in 1943-44, this weapon served as the Platoon Leader's vehicle in most armored Panzer-Grenadier units, until replaced by more modern equipment, based on the later Ausführung D chassis, which will be covered in the next Part of this series on German armored equipment.

First Round
by Bill Platz

It was cold in the desert, once the sun had set - cold and silent. A few yards away was the track linking the two frontier outposts, Capuzzo and Sidi Omar; but on this night of June 11th, 1940, there was nothing to indicate that the two black shapes hidden in the dark were miles within enemy territory. Major Geoffrey Miller, the Commanding Officer of B Squadron, 11th Hussars, listened to the silence as the hours passed slowly into the second day of the war with Italy. Midnight passed. Then, near 0200 hrs on the 12th, engine noises came from the direction of Fort Capuzzo. Magazines for the Bren guns were checked nervously. The six men in the two Rolls Royce armoured cars waited. In minutes, the distant rumble took on the shape of four Italian lorries, fully loaded, and driving cautiously through the night. A burst of machine gun fire. . . . A moment of panic. . . . Shouting and a crash. . . . Then, it was all over.

The next morning, the Italian Army in Libya found itself without the services of four trucks, two officers and seventy-one men; while Major Miller hunted for someone to take four truckloads of Italian prisoners off his hands. the first prisoners of the desert war.

EDITOR'S NOTE: We have recently received a letter from Mr. Santosh Kumar of New Delhi, India, offering a listing of military insignia and medals for sale. Mr. Kumar will send a list of available items to interested persons; requests should be addressed to: Mr. Santosh Kumar, 49-G Block, Connaught Circus, New Delhi -1, India.



the occupation of Yugoslavia and Greece took place. The next employment for the 4. Panzer-Division came in Unternehmen Barbarosa, the attack on the Soviet Union.

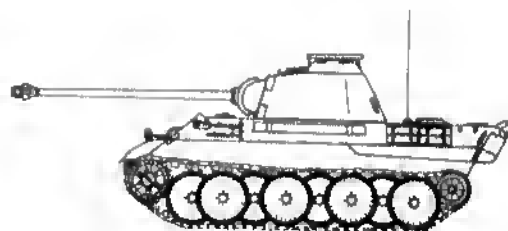
For those readers who are interested in the typical (or not so typical) organization of the 4. Panzer-Division, the order-of-battle at the start of the French campaign was as follows:

Division-Stab, 4. Pz. Div.
Panzer-Brigade 5.
Panzer-Regiment 35.
Panzer-Regiment 36.
Schützen-Brigade 4.
Schützen-Regiment 12.
Schützen-Regiment 33.
Aufklärungs-Abteilung 7.
Artillerie-Regiment 103.
Panzerjäger-Abteilung 49.
Pionier-Bataillon 79.
Nachrichten-Abteilung 79.

Division Staff, 4th Panzer-Division
 Headquarters, Panzer-Brigade 5.
 35th Armored Regiment (2 Bns.)
 36th Armored Regiment (2 Bns.)
 Headquarters, Infantry Brigade 4.
 12th Infantry Regiment (2 Bns.)
 33rd Infantry Regiment (2 Bns.)
 7th Reconnaissance Battalion
 103rd Artillery Regiment
 49th Anti-Tank Battalion
 79th Engineer Battalion
 79th Signal Battalion

Coming next issue.....A completely different Color 'n Camouflage.....

FROM THE CIRCULATION DIRECTOR: Since most of the back issues of Volume 1 of the AFV-G2 are no longer available, we are considering a limited re-run of certain numbers, probably on the basis of one or two numbers per month. Anyone interested in such reprints, please contact us, in writing to the Editor.



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